

**Abstract of the Invention**

This invention relates to processes for converting oxygenates to olefins that include a step of pretreating molecular sieve used in the conversion reaction with a C<sub>4</sub>-C<sub>7</sub> olefin composition, which contains one or more C<sub>4</sub>-C<sub>7</sub> olefins. Fresh or regenerated molecular sieve, which is low in carbon content, is contacted or pretreated with the olefin composition to form a hydrocarbon co-catalyst within the pore structure of the molecular sieve, and the pretreated molecular sieve containing the co-catalyst is used to convert oxygenate to a lighter olefin product.